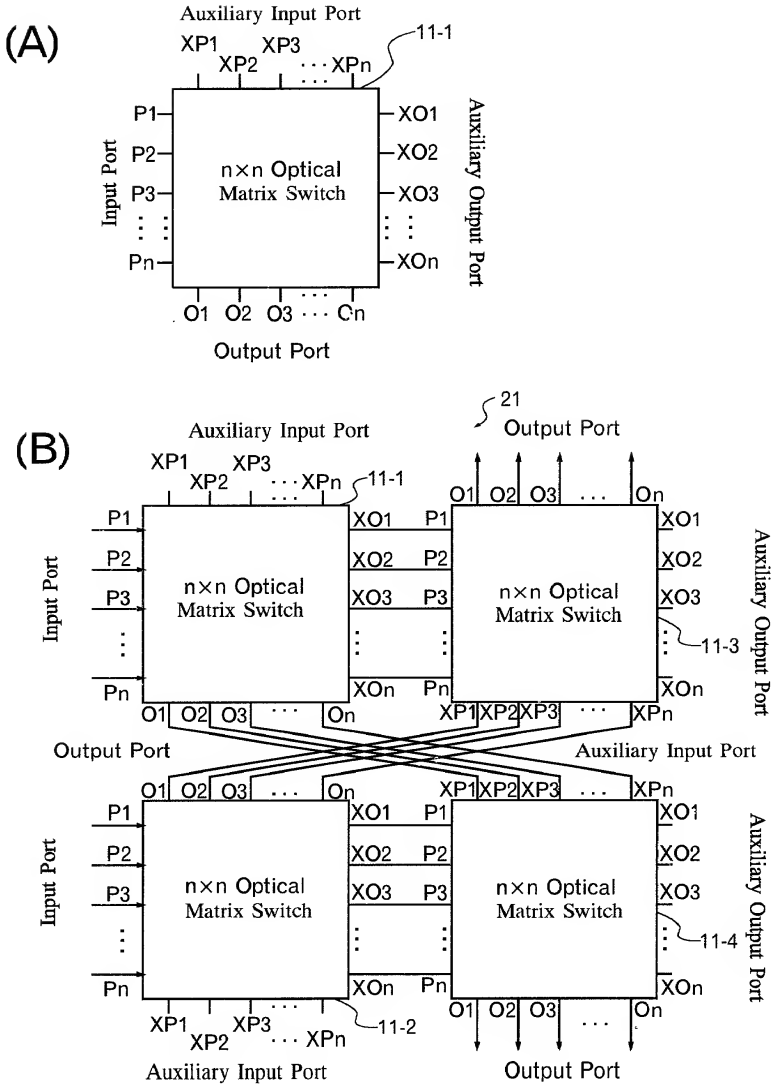
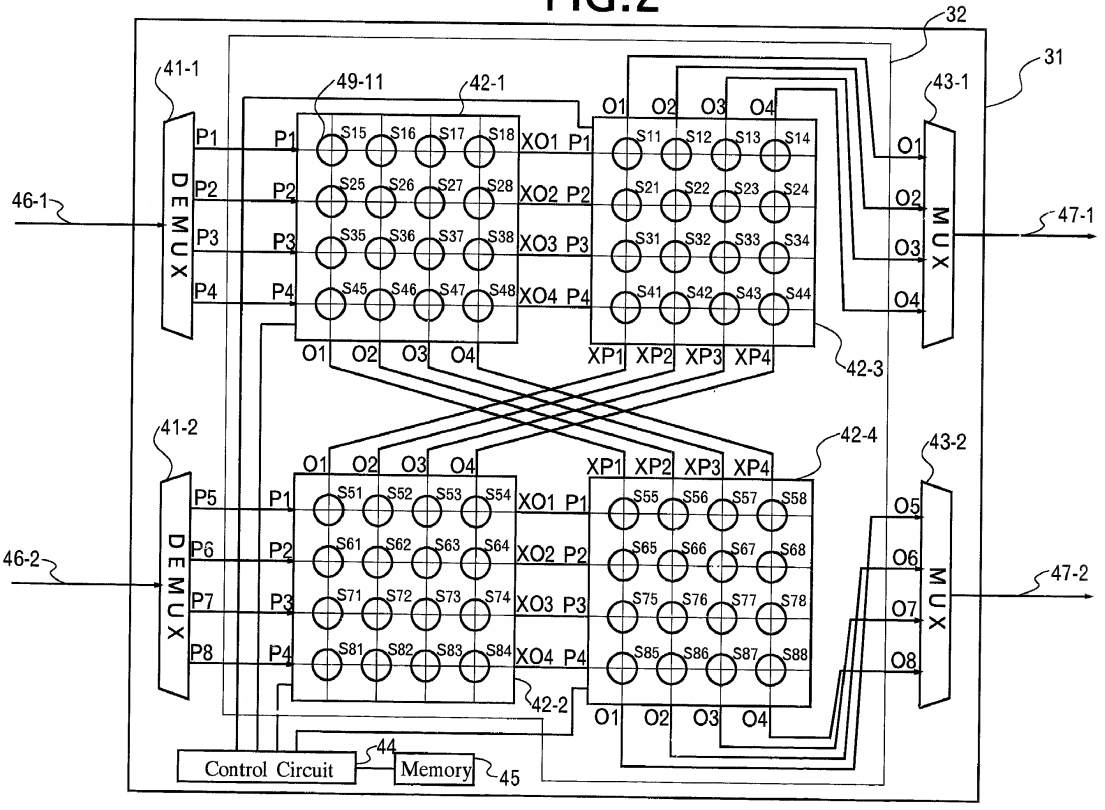
FIG.1


(A)
Auxiliary Input Port
XP1
XP2
XP3
XPn
11-1
P1
P2
P3
Pn
Input Port
n×n Optical Matrix Switch
XO1
XO2
XO3
XOn
Auxiliary Output Port
O1
O2
O3
On
Output Port
(B)
21
Output Port
Auxiliary Input Port
11-3
11-4
11-2

TUCTHD" HCESZ6GD

FIG.2



FOREIGN ASSEMBLY

FIG.3

		Column Number of Optical Switch Element							
		1	2	3	4	5	6	7	8
Row Number of Optical Switch Element	1	S15	S16	S17	S18	S11	S12	S13	S14
	2	S25	S26	S27	S28	S21	S22	S23	S24
	3	S35	S36	S37	S38	S31	S32	S33	S34
	4	S45	S46	S47	S48	S41	S42	S43	S44
	5	S51	S52	S53	S54	S55	S56	S57	S58
	6	S61	S62	S63	S64	S65	S66	S67	S68
	7	S71	S72	S73	S74	S75	S76	S77	S78
	8	S81	S82	S83	S84	S85	S86	S87	S88

FIG.4

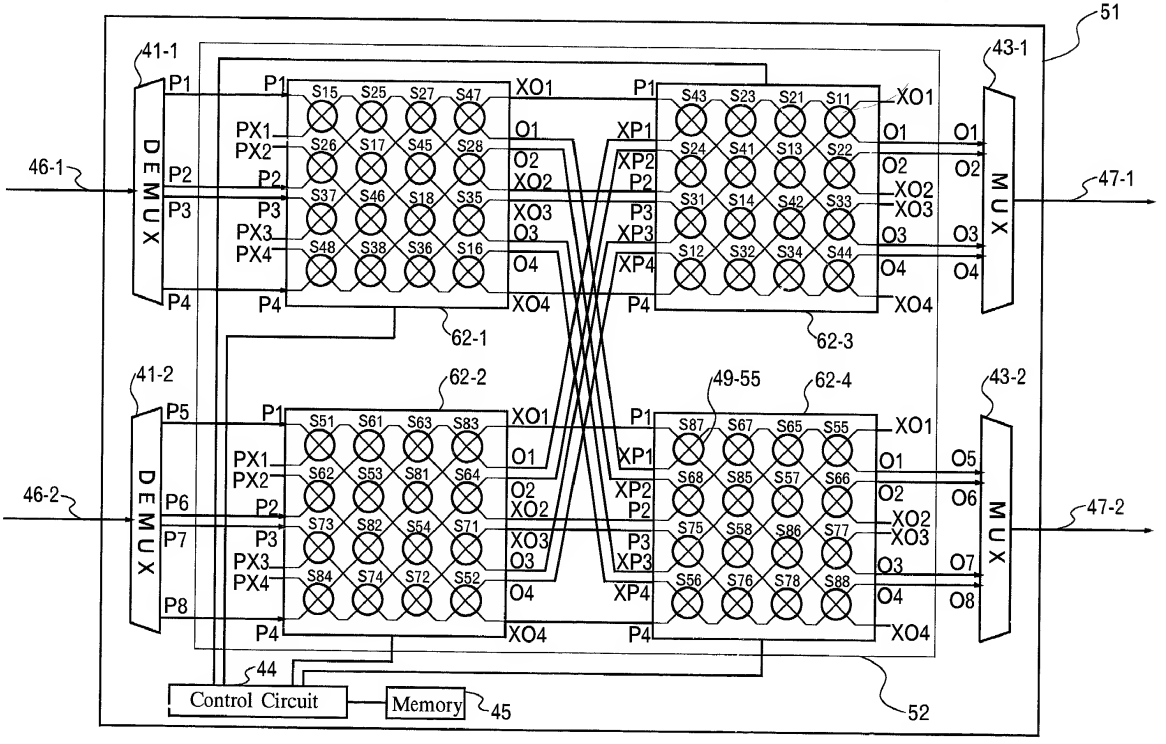
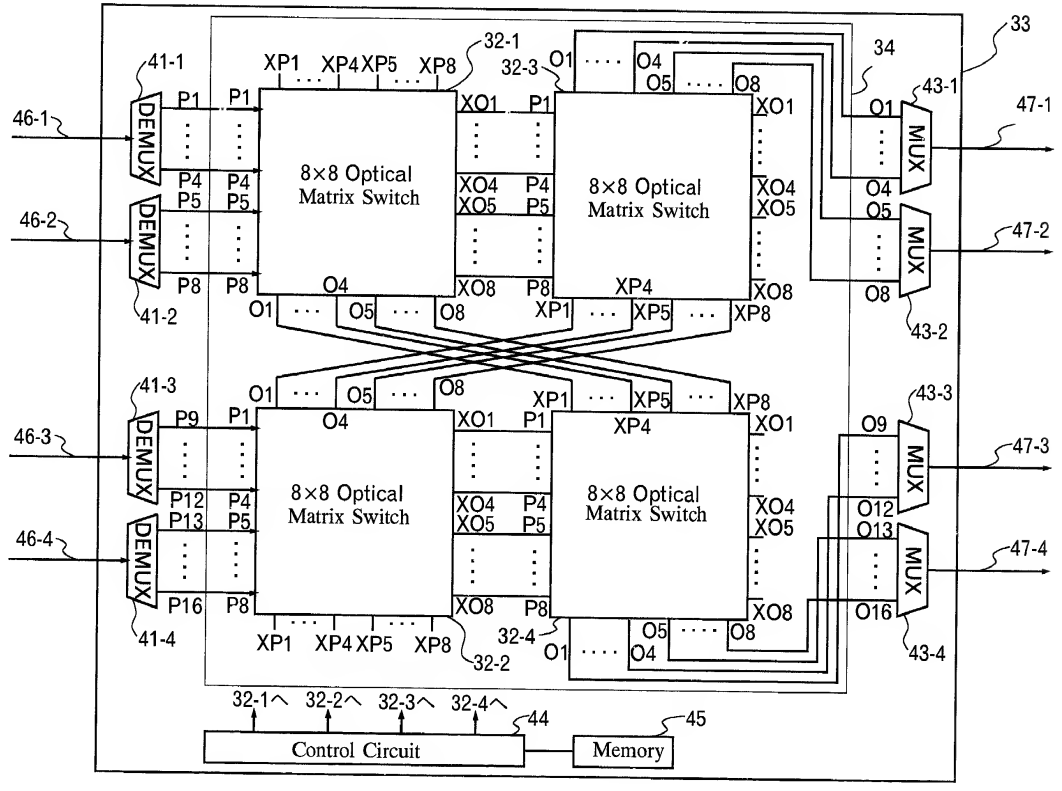

51
41-1
43-1
46-1
47-1
DEMUX
MUX
P1
P2
P3
P4
PX1
PX2
PX3
PX4
XO1
XO2
XO3
XO4
XP1
XP2
XP3
XP4
O1
O2
O3
O4
62-1
62-3
41-2
43-2
46-2
47-2
P5
P6
P7
P8
62-2
49-55
62-4
O5
O6
O7
O8
44
Control Circuit
Memory
45
52

FIG.5

		Column Number of Optical Switch Element							
		1	2	3	4	5	6	7	8
Row Number of Optical Switch Element	1	S15	S25	S27	S48	S43	S23	S21	S11
	2	S26	S17	S45	S28	S24	S41	S13	S22
	3	S37	S46	S18	S35	S31	S14	S42	S33
	4	S48	S38	S36	S16	S12	S32	S34	S44
	5	S51	S61	S63	S83	S87	S67	S65	S55
	6	S62	S53	S81	S64	S68	S85	S57	S66
	7	S73	S82	S54	S71	S75	S58	S86	S77
	8	S84	S74	S72	S52	S56	S76	S78	S88

TOSHIBA RESEARCH

FIG.6



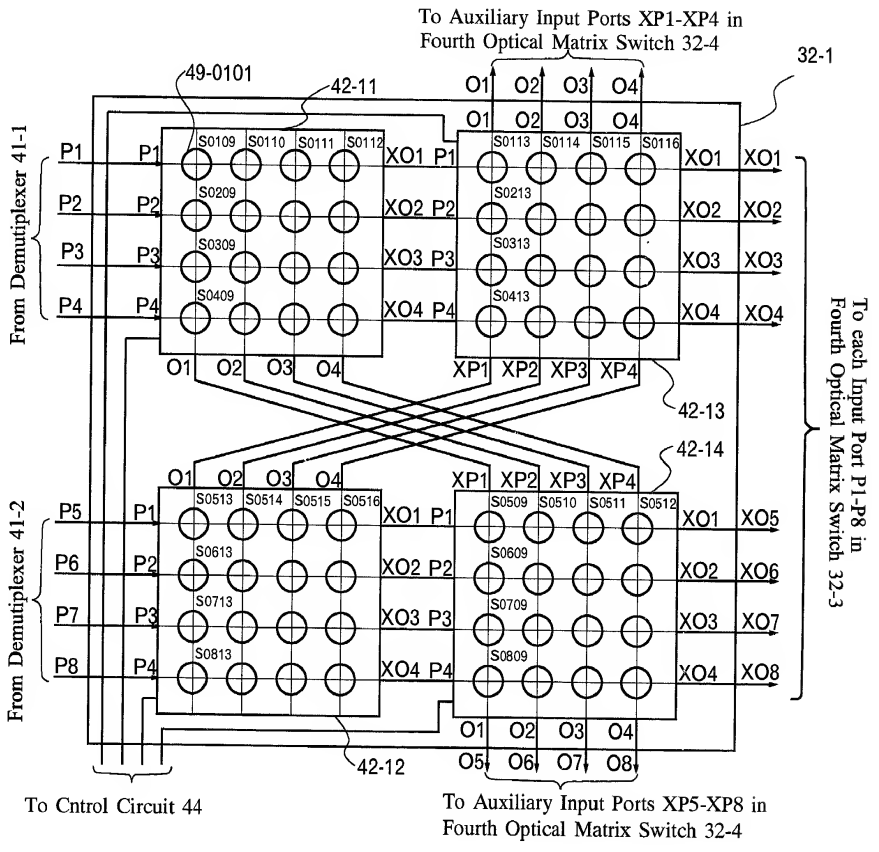
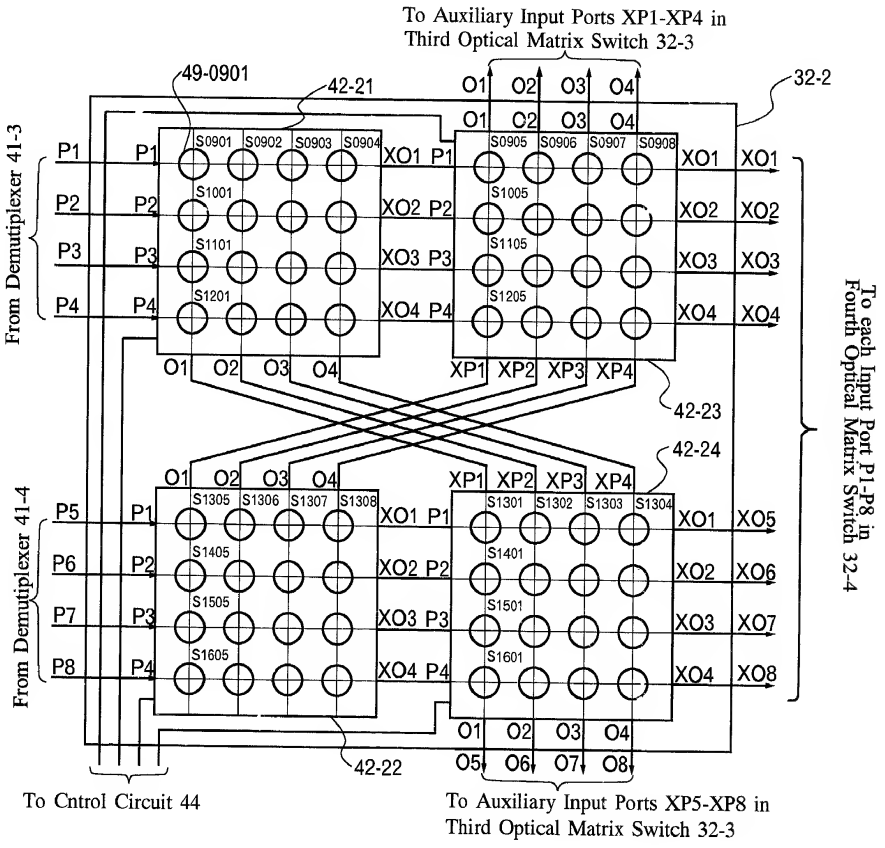

To Auxiliary Input Ports XP1-XP4 in Fourth Optical Matrix Switch 32-4
32-1
49-0101
42-11
From Demutiplexer 41-1
From Demutiplexer 41-2
To each Input Port P1-P8 in Fourth Optical Matrix Switch 32-3
42-13
42-14
42-12
To Cntrol Circuit 44
To Auxiliary Input Ports XP5-XP8 in Fourth Optical Matrix Switch 32-4

FIG.7

FOUND ACCESSED

FIG.8



TOCHNO "A2E5E660

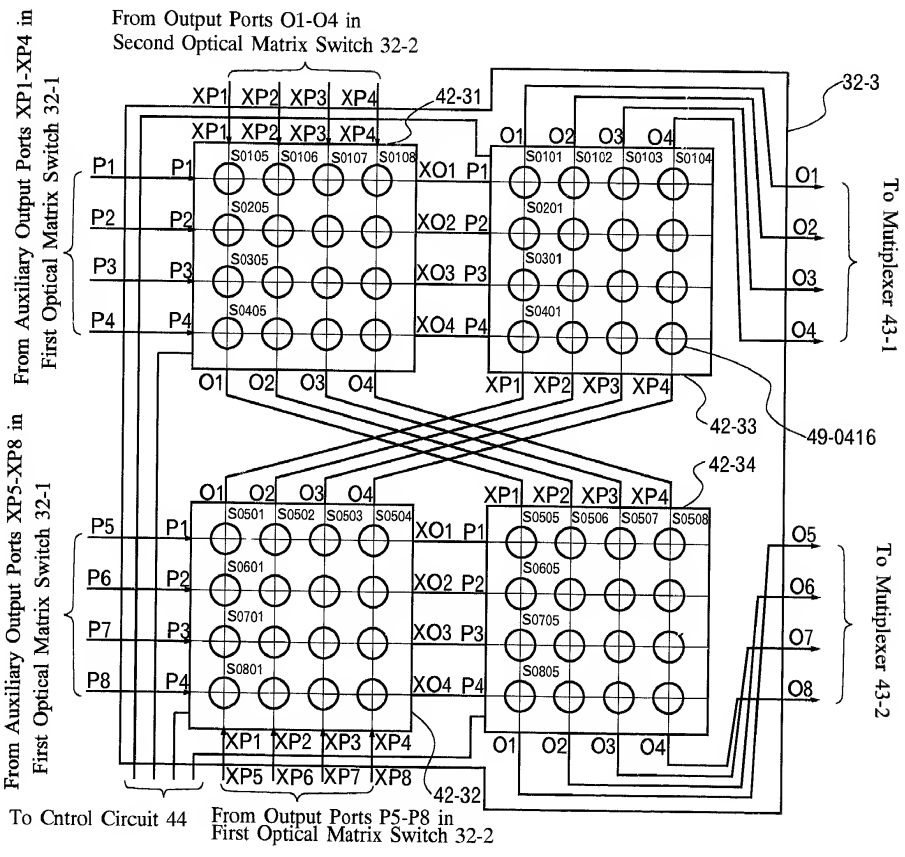


FIG.9

TOSHIBA RESTRICTED

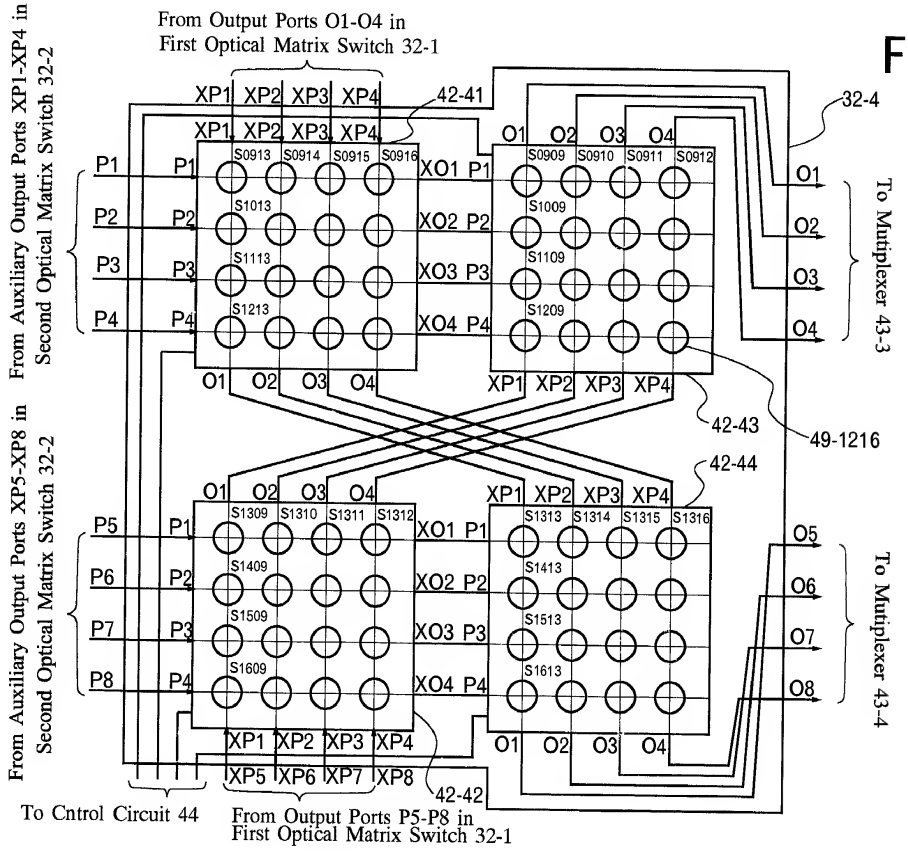


FIG.10

FIG.11

Row Number of Optical Switch Element	Column Number of Optical Switch Element															
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
01	S0109	S0110	S0111	S0112	S0113	S0114	S0115	S0116	S0105	S0106	S0107	S0108	S0101	S0102	S0103	S0104
02	S0209	S0210	S0211	S0212	S0213	S0214	S0215	S0216	S0205	S0206	S0207	S0208	S0201	S0202	S0203	S0204
03	S0309	S0310	S0311	S0312	S0313	S0314	S0315	S0316	S0305	S0306	S0307	S0308	S0301	S0302	S0303	S0304
04	S0409	S0410	S0411	S0412	S0413	S0414	S0415	S0416	S0405	S0406	S0407	S0408	S0401	S0402	S0403	S0404
05	S0513	S0514	S0515	S0516	S0509	S0510	S0511	S0512	S0501	S0502	S0503	S0504	S0505	S0506	S0507	S0508
06	S0613	S0614	S0615	S0616	S0609	S0610	S0611	S0612	S0601	S0602	S0603	S0604	S0605	S0606	S0607	S0608
07	S0713	S0714	S0715	S0716	S0709	S0710	S0711	S0712	S0701	S0702	S0703	S0704	S0705	S0706	S0707	S0708
08	S0813	S0814	S0815	S0816	S0809	S0810	S0811	S0812	S0801	S0802	S0803	S0804	S0805	S0806	S0807	S0808
09	S0901	S0902	S0903	S0904	S0905	S0906	S0907	S0908	S0913	S0914	S0915	S0916	S0909	S0910	S0911	S0912
10	S1001	S1002	S1003	S1004	S1005	S1006	S1007	S1008	S1013	S1014	S1015	S1016	S1009	S1010	S1011	S1012
11	S1101	S1102	S1103	S1104	S1105	S1106	S1107	S1108	S1113	S1114	S1115	S1116	S1109	S1110	S1111	S1112
12	S1201	S1202	S1203	S1204	S1205	S1206	S1207	S1208	S1213	S1214	S1215	S1216	S1209	S1210	S1211	S1212
13	S1305	S1306	S1307	S1308	S1301	S1302	S1303	S1304	S1309	S1310	S1311	S1312	S1313	S1314	S1315	S1316
14	S1405	S1406	S1407	S1408	S1401	S1402	S1403	S1404	S1409	S1410	S1411	S1412	S1413	S1414	S1415	S1416
15	S1505	S1506	S1507	S1508	S1501	S1502	S1503	S1504	S1509	S1510	S1511	S1512	S1513	S1514	S1515	S1516
16	S1605	S1606	S1607	S1608	S1601	S1602	S1603	S1604	S1609	S1610	S1611	S1612	S1613	S1614	S1615	S1616

TOZHNO"HZESE86O

FIG.12

Row Number of Optical Switch Element	Column Number of Optical Switch Element															
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
01	S0109	S0209	S0211	S0411	S0415	S0215	S0213	S0113	S0105	S0205	S0207	S0407	S0403	S0203	S0201	S0101
02	S0210	S0111	S0409	S0212	S0216	S0413	S0115	S0214	S0206	S0107	S0405	S0208	S0204	S0401	S0103	S0202
03	S0311	S0410	S0112	S0309	S0313	S0116	S0414	S0315	S0307	S0406	S0108	S0305	S0301	S0104	S0402	S0303
04	S0412	S0312	S0310	S0110	S0114	S0314	S0316	S0416	S0408	S0308	S0306	S0106	S0102	S0302	S0304	S0404
05	S0513	S0613	S0615	S0815	S0811	S0611	S0609	S0509	S0501	S0601	S0603	S0803	S0807	S0607	S0605	S0505
06	S0614	S0515	S0813	S0616	S0612	S0809	S0511	S0610	S0206	S0503	S0801	S0604	S0608	S0805	S0507	S0606
07	S0715	S0814	S0516	S0713	S0709	S0512	S0810	S0711	S0703	S0802	S0504	S0701	S0705	S0508	S0806	S0707
08	S0816	S0716	S0714	S0514	S0510	S0710	S0712	S0812	S0804	S0704	S0702	S0502	S0506	S0706	S0708	S0808
09	S0901	S1001	S1003	S1203	S1207	S1007	S1005	S0905	S0913	S1013	S1015	S1215	S1211	S1011	S1009	S0909
10	S1002	S0903	S1201	S1004	S1008	S1205	S0907	S1006	S1014	S0915	S1213	S1016	S1012	S1209	S0911	S1010
11	S1103	S1202	S0904	S1101	S1105	S0908	S1206	S1107	S1115	S1214	S0916	S1113	S1109	S0912	S1210	S1111
12	S1204	S1104	S1102	S0902	S0906	S1106	S1108	S1208	S1216	S1116	S1114	S0914	S0910	S1110	S1112	S1212
13	S1305	S1405	S1407	S1607	S1603	S1403	S1401	S1301	S1309	S1409	S1411	S1611	S1615	S1415	S1413	S1313
14	S1406	S1307	S1605	S1408	S1404	S1601	S1303	S1402	S1410	S1311	S1609	S1412	S1416	S1613	S1315	S1414
15	S1507	S1606	S1308	S1505	S1501	S1304	S1602	S1503	S1511	S1610	S1312	S1509	S1513	S1316	S1614	S1515
16	S1608	S1508	S1506	S1306	S1302	S1502	S1504	S1604	S1612	S1512	S1510	S1310	S1314	S1514	S1516	S1616

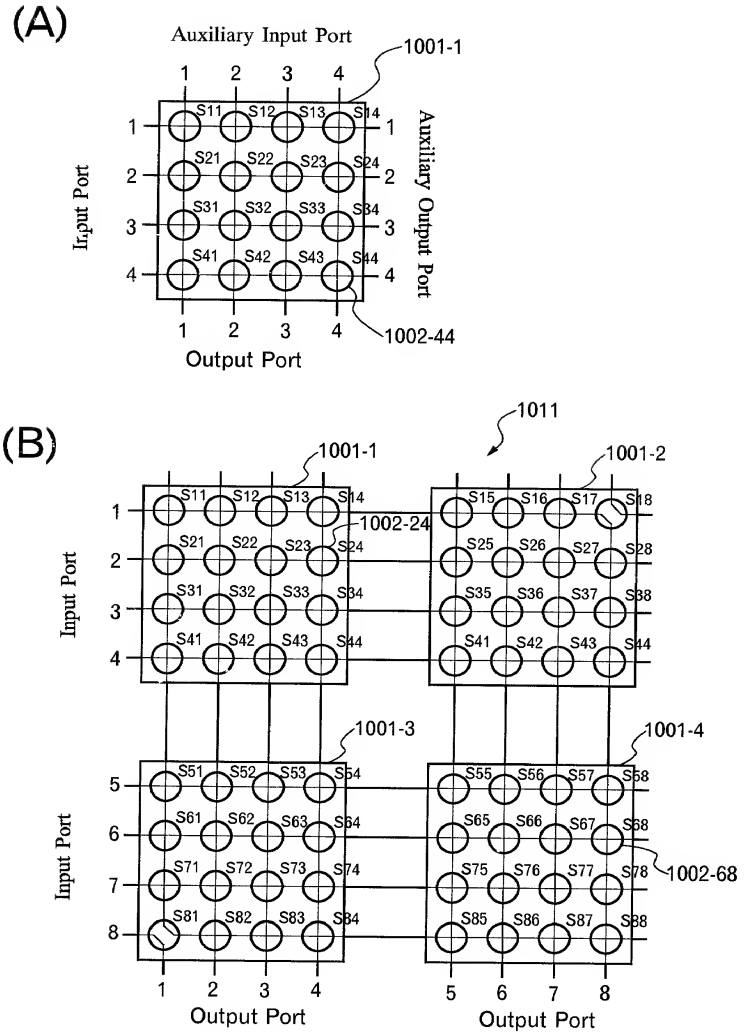



FIG.13
Prior Art